

REMARKS

Upon entry of the present amendment, claims 16 and 17 will have been amended while claims 18 through 22 will have been canceled without prejudice or disclaimer of the subject matter thereof. In addition, claims 29 and 30 will have been submitted for consideration by the examiner.

In view of the herein contained amendments and remarks, Applicants respectfully request reconsideration and withdrawal of each of the outstanding rejections. Such action is submitted to be appropriate and proper and is thus respectfully requested, in due course.

In the outstanding Official Action, the Examiner rejected claims 16-28 under 35 U.S.C. § 112, first paragraph. In particular, the Examiner asserted that the pending claims fail to comply with the written description requirement. The Examiner asserted that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey, to one skilled in the relevant art, that the inventors, at the time the application was filed, had possession of the invention.

The Examiner asserted that claim 16 includes new matter not disclosed in the original specification. In particular, the Examiner asserted that the limitation "a detection section that is disposed adjacent to the exciting coil and is made of a magnetic member" and the limitation "a detection section is disposed at a position drifted to an inner side of a magnetic path of the magnetic field" represent prohibited new matter. The Examiner asserted that he could not find clear support for these features in the original disclosure. Accordingly, the Examiner required clarification or cancellation of the new matter.

Applicants respectfully traverse the above-noted rejection. In particular, with respect to the detection section being made of a magnetic member, the Examiner's attention is respectfully directed to paragraph [0058] of the original disclosure or paragraph [0074] of the published

application. This paragraph explicitly discloses that "even if the thermostat 301 has a configuration including a magnetic substance". Accordingly, Applicants specification provides clear and explicit support for the above-noted recited feature of Applicants invention.

With respect to the detection section being disposed at a position drifted to an inner side of the magnetic path of the magnetic field, Applicants have deleted this phrase from the pending claims in order to resolve the above noted issue while not in any manner acquiescing in the propriety of the Examiner's rejection.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections of the claims under 35 U.S.C. § 112, first paragraph.

In the outstanding Official Action, the Examiner rejected claims 16-28 under 35 U.S.C. § 112, second paragraph as being indefinite. The Examiner asserted that the claims fail to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In this regard, the Examiner made reference to the same claim limitations discussed above with respect to the rejection under 35 U.S.C. § 112, first paragraph.

Accordingly, in view of the herein-contained response to the above-noted rejection under 35 U.S.C. § 112, first paragraph, Applicants respectfully submit that the instant rejection under 35 U.S.C. § 112, second paragraph has also been resolved. In this regard, Applicants note that explicit basis has now been provided, in the original specification, to support the detection section being made of (or comprising) a magnetic member. In other words, as disclosed, the thermostat 301 can be made of a magnetic material. Regarding the clause "drifted to an inner side", since this limitation has been deleted from the claims it is respectfully submitted that the rejection under 35 U.S.C. § 112, second paragraph based thereupon has clearly been rendered moot.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the outstanding rejection under 35 U.S.C. § 112, second paragraph.

In the outstanding Official Action, the Examiner rejected claims 16-21, 22 and 24-28 under 35 U.S.C. § 103(a) as being unpatentable over RICOHH (JP 2003 -- 017221 previously cited by Applicants) in view of ITO (JP 57 -- 133468). Claims 17-20 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over RICOHH and ITO and further in view of MATSUSHITA (JP 2001 -- 188430) or CANON (JP 8 -- 16006).

Applicants respectfully traverse each of the above-noted rejections and submit that they are inappropriate with respect to the combinations of features now recited in Applicants claims. In particular, Applicants respectfully submit that no proper combination of the references cited by the Examiner contain disclosures adequate or sufficient to disclose, teach, suggest, or even to render obvious the combination of features recited in each of Applicants' claims. Thus, Applicants respectfully request reconsideration and withdrawal of each of the outstanding rejections, in due course.

By the present response, Applicants have amended independent claim 16 to include therein features previously recited in claim 17 and 18. Accordingly, the relevant rejection with respect to claim 16 involves a combination of four cited references and Applicants respectfully submit that no proper combination of these documents teach the particular combination of features recited in Applicants' claim 16.

Applicants' invention is directed to a heating apparatus as defined by the features of claim 16. The heating apparatus includes a heating element that is heated by electromagnetic induction through action of a magnetic field, an exciting coil that is disposed along the heating element and generates the magnetic field which acts on the heating element, and a detection

section that is disposed adjacent to the exciting coil and comprises a magnetic member that detects an abnormally high temperature in the heating element. A center core comprising a ferromagnetic member is disposed in a center area of the exciting coil, a side core comprising a ferromagnetic member is disposed on an outer side of the exciting coil and the detection section is interposed between the center core and the side core. Further, a height of the detection section, in a direction extending away from the heating element, is less than a height of the center core and a height of the side core, in directions extending away from the heating element.

The primary RICOH reference relied upon by the Examiner, while disclosing a temperature detection member S2 does not contain any disclosure relating to center or side cores, nor is there any indication therein that the temperature detection member comprises a magnetic element. Inherently then, RICOH cannot disclose the height relationships set forth in Applicants claim 16 at least because no side or center cores are disclosed therein.

Recognizing the deficiency of the RICOH reference regarding a detection section that comprises a magnetic member, the Examiner relied upon ITO. However, ITO also does not disclose the features of Applicants' claim 16. In particular, ITO also does not disclose center or side cores as is recited in Applicants' claims. Accordingly, ITO also cannot disclose the height relationships set forth in claim 16 at least because ITO does not disclose the side and center cores as recited in Applicants' claim 16.

In setting forth the rejection, the Examiner further relies upon MATSUSHITA for disclosing the side and center cores. However, while such cores might well be disclosed in MATSUSHITA, MATSUSHITA clearly does not disclose a detection section that comprises a magnetic member or even a detection section positioned as recited. In particular, the detection section 7 does not appear to be positioned or interposed between the center core and the side core

and moreover MATSUSHITA does not contain any disclosure regarding the height relationships set forth in Applicants' claim 16.

In setting forth the rejection, the Examiner further asserts that CANON shows a heating device wherein the means for detecting abnormal temperatures is sandwiched between the core and the excitation coil by means of the side parts of the winding bundles of the excitation coil. It is respectfully submitted that the Examiner is incorrect. Initially, Applicants note that the English language abstract of CANON makes no mention of a detection section. Figure 1 however appears to disclose an temperature sensor 6. However, the location of the sensor 6 is clearly not in accordance with the recitations of Applicants' claims. Moreover, it is not even clear which components or elements of CANON are considered to be the core or the side parts referenced in the Examiner's rejection.

Accordingly, it is quite clear that in view of the various numerous and substantial shortcomings and deficiencies in the disclosures of each of the above noted references relied upon by the Examiner, no proper combination of these references is adequate or sufficient to render the combination of features recited in Applicants claims unpatentable. In particular, there is no logical reason for combining individual features selected from the various disclosures relied upon by the Examiner so as to result in a heating apparatus including a center core and a side core with a detection section which comprises a magnetic member interposed between the center core and the side core and wherein a height of the detection section in a direction extending away from the heating element, is less than a height of the center core and a height of the side core, in directions extending away from the heating element, in the claimed combination.

Applicants note that the present claim 16 recites and thus requires at least three components which in combination provide some of the beneficial results and advantages of the

present invention. In particular, claim 16 requires a heating apparatus with a center core and a side core, a detection section interposed between the center core and the side core with the height of the detection section being less than the height of the center core and the height of the side core, in directions extending away from the heating element. Since these elements are so related, the Examiner's reliance upon references which show individual ones of these components is not based upon the required logical reasoning for combining these references in a manner to render obvious the combinations of features recited in Applicants' claims.

As a non-limiting example of an advantageous result of the present invention, Applicants note that due to the recited features the detection section is rendered less likely to interact with the magnetic path and thus prevents false detection.

Applicants additionally note the Examiner's assertions at the conclusion of each of the outstanding rejections, that the "exact arrangement would have been a matter of design expediencies" and respectfully traverse the same. Applicants respectfully submit that the Examiner has set forth no evidentiary basis supporting this conclusion and accordingly the Examiner's assertion provides an inappropriate and inadequate basis for the rejection of any of the claims pending in the present application.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections together with an indication of the allowability of all of the claims pending in the present application, in due course.

SUMMARY AND CONCLUSION

Applicants have made a sincere effort to place the present application in condition for allowance and believe that they have now done so. Applicants have amended the claims to clarify the recitations thereof and to more particularly define the combination of features defining Applicants' invention.

Applicants have addressed each of the rejections under 35 U.S.C. § 112 and have traversed the same based on the features presently recited in the claims. Applicants have additionally traversed the Examiner's prior art rejection of the claims based on the combination of references applied thereagainst.

In particular, Applicants have discussed the disclosures of the four references relied upon by the Examiner and have pointed out the significant and substantial shortcomings thereof with respect to the features recited in Applicants' claims. Applicants have additionally pointed out the particular features of Applicants' claims, in the claimed combination, that are lacking from the references relied upon, even if combined as proposed by the Examiner. Applicants have additionally pointed it out the lack of any logical reasoning for the proposed combination asserted by the Examiner. Accordingly, Applicants have provided a clear and convincing evidentiary basis supporting the patentability of all the claims in the present application and respectfully request an indication to such effect in due course.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should the Examiner have any questions or comments regarding this Response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully Submitted,
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